REMARKS

Reconsideration and the timely allowance of the pending claims, in view of the following remarks, are respectfully requested.

In the Office Action dated May 27, 2006, the Examiner rejected claims 1-5, 7-14, and 16-17, under 35 U.S.C. §102(a), as allegedly being anticipated by Sakai '917 (U.S. Patent Pub. No. 2002/0018917); rejected claims 1, 4, 5, 7-10, 13-14, and 16-17, under 35 U.S.C. §102(a), as allegedly being anticipated by Fullerton '589 (U.S. Patent No. 6,440,589); rejected claims 1, 4, 5, 7, 9, 10, 13-14, and 16, under 35 U.S.C. §102(a), as allegedly being anticipated by Iwasaki '476 (U.S. Patent No. 6,387,476); rejected claim 10, under 35 U.S.C. §103(a), as allegedly being unpatentable over Tomiyama '752 (U.S. Patent Pub. No. 2006/0028752); rejected claim 10, under 35 U.S.C. §103(a), as allegedly being anticipated by Fullerton '589 in view of Tomiyama '752; and rejected claim 10, under 35 U.S.C. §103(a), as allegedly being anticipated by Iwasaki '476 in view of Tomiyama '752.

The Examiner objected to the Title as allegedly not being descriptive and to claims 6 and 15, but indicated that claims 6 and 15 would be allowable if rewritten in independent form.

By this Amendment, the Title has been amended, independent claims 1 and 9 have been amended to provide a clearer presentation of the claimed subject matter, claims 4 and 13 have been cancelled without prejudice or disclaimer, and new claims 18-19 have been added, which are substantially claims 6 and 15 rewritten in independent form. Applicants submit that no new matter has been introduced. As such, claims 1-3, 5-12, and 14-19 are currently presented for examination of which claims 1, 9, and 18-19 are independent.

Applicants submit that, by virtue of the changes to Title, Applicant respectfully requests the immediate withdrawal of the objection to the Title.

Applicants respectfully traverse the prior art rejections, under 35 U.S.C. §102(a) and §103(a) for the following reasons.

I. Prior Art Rejections

As noted above, independent claim 1 positively recites, *inter alia*, that the multi-layer includes a magnetic recording layer and a high-magnetostriction layer having magnetostriction larger than that of the magnetic recording layer, wherein the high-magnetostriction layer has a magnetrostriction constant larger than 5×10^{-5}. These claimed features are amply supported by the embodiments disclosed in the Specification. (*See,* Originally-filed Specification: page 12, lines 7-10).

Unlike the present invention, none of the asserted references teach or suggest each and every element of claim 1, including the features identified above. In particular, the Sakai '917 reference is directed to a perpendicular magnetic recording medium comprising a crystalline magnetic layer and a multi-magnetic recording layer of a noncrystalline magnetic layer. (*See,* Sakai '917: paras. **[0011]** - **[0014]**). In so doing, Sakai '917 does not mention the use of a high-magnetostriction layer – much less that such a layer has a magnetrostriction constant larger than 5×10^{-5}, as required by claim 1.

Furthermore, as best understood, none the remaining references, including Fullerton '589 and Iwasaki '476, are capable of curing the deficiencies of Sakai '917 identified above. For example, Fullerton '589 discloses that a pure Co layer can be laminated on a Co alloy layer but fails to mention the use of a high-magnetostriction layer or that such a layer has a magnetrostriction constant larger than 5×10^{-5}. (*See,* Fullerton '589: col. 4, lines 7-16). However, it will be appreciated by those of ordinary skill in the art, that a pure Co layer does not have a magnetostriction constant that is greater than 5×10^{-5}. (*See, e.g.,* excerpts from Dr. Chikazumi, *Physics of Ferromagnetism, Vol. II,* page 124). As such, Fullerton '589 cannot be construed as anticipating claim 1.

Iwasaki '476 is similarly deficient as it is directed to laminating a strain-applying layer and a strain-sensitive magnetic layer on a magnetic layer in which the strain-applying layer is connected to a voltage source. (*See,* Iwasaki '476: col. 7, lines 41-51). There is no mention of the use of a high-magnetostriction layer or that such a layer has a magnetrostriction constant larger than 5×10^{-5}. Equally notable, as will be appreciated by those of ordinary skill, is that the high-magnetostriction layer of the present invention generates strain by applying a magnetic field and does not require a voltage source.

For at least these reasons, Applicants submit that the none of the asserted references, whether taken alone or in reasonable combination, teach or suggest the claimed combination of elements recited by amended claim 1. Accordingly, Applicant submits that claim 1 is patentable and request the immediate withdrawal of the prior art rejections of claim 1. Because claims 2-4 and 5-8 depend from claim 1, claims 2-4 and 5-8 are at least patentable by virtue of dependency as well as for their additional recitations and the withdrawal of the prior art rejections of claims 2-4 and 5-8 is respectfully requested.

Moreover, because independent claim 9 recites features that are similar to the features identified above as being patentable in claim 1, claim 9 is also patentable for at least the reasons presented with respect to claim 1. And, because claims 10-12 and 14-17 depend from claim 9, claims 10-12 and 14-17 are at least patentable by virtue of dependency as well as for their additional recitations and the withdrawal of the prior art rejections of claims 10-12 and 14-17 is respectfully requested.

Finally, as discussed above, because new independent claims 18-19 are substantially the same as claims 6 and 15 rewritten in independent form, Applicants submit that claims 18-19 are patentable for the reasons indicated by the Examiner.

II. Conclusion.

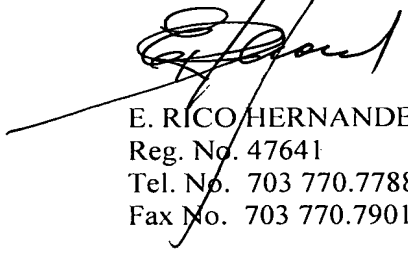
All matters having been addressed and in view of the foregoing, Applicants respectfully request the entry of this Amendment, the Examiner's reconsideration of this application, and the immediate allowance of all pending claims.

Applicants' Counsel remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the Undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

PILLSBURY WINTHROP SHAW PITTMAN LLP



E. RICO HERNANDEZ
Reg. No. 47641
Tel. No. 703 770.7788
Fax No. 703 770.7901

Date: June 20, 2006
P.O. Box 10500
McLean, VA 22102
(703) 770-7900

ATTACHMENT
Serial No. 10/786,611

PHYSICS OF FERROMAGNETISM, VOL. II

— MAGNETIC CHARACTERISTICS AND ENGINEERING APPLICATION —

by

SŌSHIN CHIKAZUMI, DR. SC.

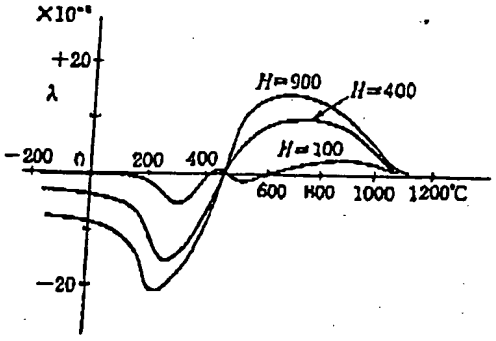
SYOKABO

TOKYO

という大きな絶対値に達しているのは面白い．Lの生きている希土類金属については，λの正確な決定は困難であるが，ネール点付近の小さな磁歪から $T=0$ に外挿した値は Dy[16], Ho[17], Er[16,18] などで，10^{-6} を単位として数千という大きさに達する．

i－b) コバルトの磁歪

Coは高温で面心立方，約420 °C以下では六方最密格子に変態する．多結晶について測定した磁歪定数λは，14－15図に示すように，その変態点で符号を変える．[19] 400°C以下で，単結晶について測定した磁歪定数および弾性率は14－1表に示すとおりである．



14－15 図 焼鈍した多結晶 Co の磁歪定数の温度変化[19]（Hの値は $Oe\ (=10^3/4\pi\ A/m)$）

14－1 表 Co (hex) の磁歪定数と弾性率[20]

t (°C)	λ_A	λ_B	λ_C	λ_D
400	-16.5×10^{-6}	-70.5×10^{-6}	105×10^{-6}	-52×10^{-6}
200	−32.5	−88.5	120	−82
0	−52	−109	126	−108
−200	−66	−123	126	−128
−200	$c_{11}=3.07$, $c_{12}=1.65$, $c_{13}=1.03$, $c_{33}=3.58$, $c_{44}=0.76\times10^{11}\ N/m^2$ ($\times10^{12}\ dyn/cm^2$)			

i－c) 六方晶化合物磁性体の磁歪

六方晶フェライトの一つである $BaFe_{12}O_{27}$（「上巻」p.230）と NiAs 型化合物 MnBi（「上巻」p.253）の室温における磁歪定数を14－2表にあげてある．これらの物質の磁気異方性定数は§12 (d) i－d), i－e) で示したように，そ

14－2 表 六方晶化合物の磁歪定数（室温）

物 質	λ_A	λ_B	λ_C	λ_D	文 献
$BaFe_{12}O_{27}$	13×10^{-6}	3×10^{-6}	-23×10^{-6}	3×10^{-6}	21)
MnBi	−800	−210	640		22)